

## REFERENCES

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25. TREMATODE GILL PARASITES FROM THE FLYING GURNARD *DACTYLOPTENA ORIENTALIS* (CUV.) OF THE INDIAN OCEAN

(With three text-figures)

During the first scientific cruise (February to April 1963) of the United States Research Vessel *ANTON BRUUN* in the Indian Ocean, as part of U.S. Programme in Biology of the International Indian Ocean Expedition, I had the opportunity on two occasions to examine from the trawl collection specimens of Flying Gurnard fish for parasites. On 23 March, 1963, from the trawl collection at Station 20 (9° 13'N, 97° 51'E) off Phuket, three specimens of the fish *Dactyloptena orientalis* (Cuv.) were examined. The gills of the host though devoid of heavy mucous coating, showed infection by parasitic copepods and several specimens of monogenetic trematodes. The oesophageal and intestinal regions were occupied by digenetic trematodes. Two host specimens obtained from the trawl collection on 1st April, 1963 at Station 43 (15° 08'N, 94° 04'E) off Chittagong showed infection by the same species of monogenetic trematodes obtained on the previous occasion while the parasitic copepods of the gills and the Digenea of the intestinal organs were all absent. The monogenetic trematodes collected on both occasions belong to the same new species and new genus which is named *Glandulocephalus* gen. nov. and species *G. bruuni* sp. nov. and described below.

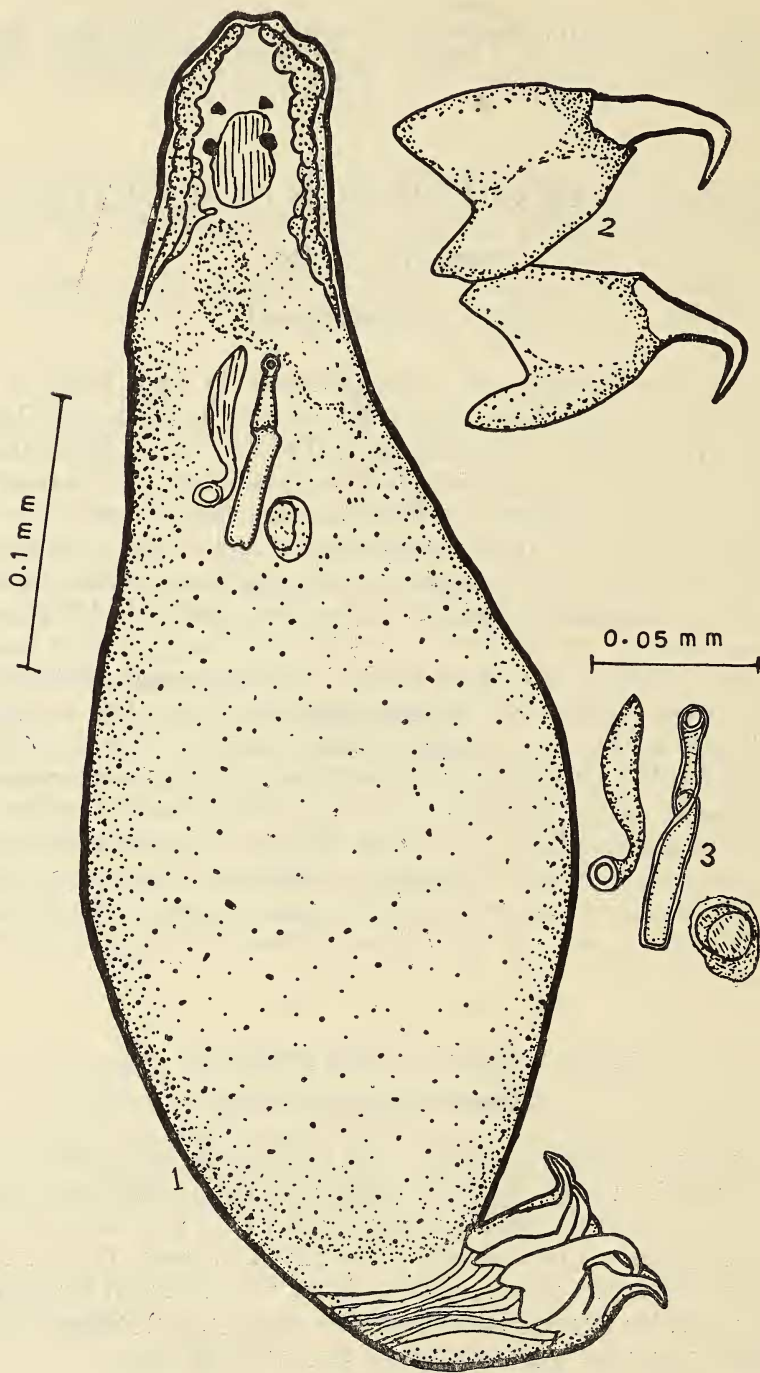
Family TETRAONCHOIDIDAE Bychowsky 1951

*Glandulocephalus* gen. nov.

*Diagnosis* : Tetraonchooididae, with a very small body ; haptor well demarcated from body, with two similar pairs of large anchors, no haptor bars, marginal hooklets scanty ; head with a pair of lateral long cephalic glands one on each side of the pharynx towards the margin of the body ; two pairs of eyes ; pharynx large, crura confluent posteriorly ; seminal vesicle present ; male intromittent organ (cirrus) jointed, tubular and with a basal bulb ; vagina may or may not be present.

Parasitic on the gills of marine fishes.

Genotype : *Glandulocephalus bruuni*



1. *Glandulocephalus bruuni* n. gen., n. sp., complete worm, dorsal view ;  
2. Anchors ; 3. Male terminalia.

**Glandulocephalus bruuni** sp. nov.

(Figs. 1-3)

Body dorsoventrally flattened, very small, total length 0.52 to 0.58 mm, elongate oval, narrowing posteriorly to a blunt end; cuticle thin and smooth. Prohaptor with a pair of irregularly lobed lateral cephalic glands along the pharyngeal region occupying a length of 0.065 mm on each side; eye spots two pairs one behind the other, anterior pair smaller, all in the anterior half of the pharyngeal zone. Mouth mid ventral, anterior to the level of eye spots; pharynx ovoid,  $0.045 \times 0.031$  mm; oesophagus short; intestinal crura bifurcating in front of the male terminalia and confluent posteriorly behind the testes zone, in front of the haptor.

Haptor demarcated from body, with two pairs of similar large anchors, 0.065 mm long, wide and bifid at the base, shafts long and slightly curved, tip recurved; haptoral bars absent; haptoral hoods scanty.

Testes saccate, between the intestinal crura; vas deferens widens to form a seminal vesicle on the left side of the male intromittent organ (cirrus complex) and enters the cirrus by a cirrus bulb at the base of the cirrus; cirrus complex with a basal bulb and jointed tubular accessory cuticularised piece, 0.075 mm long opening out by the median male genital pore situated between the first and second quarter of the body. Ovary saccate, pretesticular, oblique; oviduct wide, joins the ootype region; ootype small; uterus median ventral opens at the male genital pore; vaginal pore and egg not observed.

Host: *Dactyloptena orientalis* (Cuv.) on the gills.

Locality: Off Phuket and Chittagong in the Indian Ocean. Several specimens collected on 23 March, 1963 and 1 April, 1963.

## DISCUSSION

The genus *Glandulocephalus* closely resembles genus *Amphibdella* Chattin, 1874, in the absence of haptoral bars, the general shape of the body and the presence of similar anchors. The present species however, has a small body with very thin cuticle, haptor though distinct from body is not lobed or elaborately hooked as in *Amphibdella*. There are two pairs of eyespots and the male intromittent organ of the present species is by far different in structure than in *Amphibdella*. Also the head organs form a longitudinal lobed mass on either side of the pharynx in the present

species instead of 3 distinct pairs. Moreover, the hosts are different for the two monogenoideans.

With *Ancyrocephaloides* Yamaguti, 1938, also the present species shows resemblance to a remarkable extent especially in the presence of symmetrical anchors, small body, absence of haptor bars, confluent crura, eyes and head organs. But even in these organs the details differ considerably as described. The glandular vesicles of the haptor of *Ancyrocephaloides* are not observed in the present species. The two prominent lateral lobes of *Ancyrocephaloides* are not observed in the new genotype. The structure of the male terminalia are also widely different.

*Glandulocephalus* thus resembles *Amphibdella* Chatten, 1874, and *Ancyrocephaloides* Yamaguti, 1938, in many generic characters but is different from both in many other characters of generic importance. In the extreme smallness of the body and most of the generic characters it has more inclination to the *Ancyrocephaloides* type. Hence the new genotype is included in family Tetraonchoididae Bychowsky, 1951, of the order Tetraonchidea Bychowsky, 1957.

Generic name signifies the lateral cephalic glands of the worm and the species is named after the research ship from which the material for study was collected.

#### ACKNOWLEDGEMENTS

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#### 26. A NEW MONOGENETIC TREMATODE *SAURICOTYLE* *SPROSTONI* GEN. ET SP. N. ON THE GILLS OF THE LIZARD FISH *SAURIDA TUMBIL* (BLOCH) FROM THE ARABIAN SEA

(With four text-figures)

During the second cruise of *I.N.S. KISTNA* in the Arabian sea during the period 3rd to 14th November, 1962, with the International Indian Ocean Expedition, four specimens of the lizard fish *Saurida tumbil* (Bloch) were obtained from a trawl collection, off Bombay, on 14 November. Of